

Method for the qualitative improvement of the products of the tobacco plant

The invention belongs in the field of electronic science and applies in the field of the industrially manufactured products deriving from the tobacco plant, such as cigarettes, cigars, pipe tobacco, tobacco in general and its types. More specifically, the invention concerns the qualitative improvement of the products derived from the tobacco plant and can be applied during the processing of the tobacco and/or during the production of its products.

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With the mass production of cigarettes following World War II, there was a large increase in the cases of lung cancer, mouth and pharyngeal cancer, cardiovascular diseases and, generally, serious and fatal diseases for the human organism. Soon, this fact was linked to the consumption of tobacco products and especially of cigarettes, which contain a large number of toxic chemical substances, both in the solid stage of tobacco and in its gaseous one. In the former, solid, stage, before its burning (use), tobacco contains substances which are directly toxic, like, for example, tar and nicotine. In the latter, gaseous stage, during its burning (use) more toxic substances are produced which are harmful to the human organism.

To counter this problem of the toxic substances which are contained in and produced during the use of these products, there have been used in the last years various industrial products, like the tar- and nicotine-collecting filters of one or multiple uses, the common conventional cigarette filters, as well as, recently, the biological cigarette filters, which, to-date, provide the maximum possible protection from the toxic substances of the solid and gaseous stages of tobacco. This is the state of the art of today's technology. However, all these products attempt to limit the toxic action of the tobacco substances, by intervening during

the smoking stage. To-date there exists no method or product to act on the toxic substances themselves of solid tobacco, limiting their toxic action, before the use of the product, that is, before the product reaches the final consumer.

- 5 The present invention aims at providing a solution to the above mentioned problem of the reduction of the harmful effects of smoking, qualitatively upgrading the tobacco products.

10 The present invention constitutes a method which acts on solid tobacco before its use by the consumer and can be applied either during the industrial processing of tobacco and the production of its final products, or to the final products themselves (cigarette packs, cigars and tobacco pouches). The present invention acts on the existing toxic substances, improving the quality of tobacco, so that the final product used by the consumer has fewer harmful effects on his
15 health. It constitutes a new original method for the qualitative improvement of the industrial products of the tobacco plant. The qualitative improvement is achieved with the emission towards the industrial products of the tobacco plant of electromagnetic waves covering wide wavelengths, which are produced by electromechanical or electronic devices, the emission of which is pre-
20 programmed, has controlled power, control application time and control quality result.

 The advantages of the present method is that it acts on the toxic substances themselves of solid tobacco and limits their toxic action, thus achieving a
25 significant qualitative improvement of the industrial products of tobacco. Moreover, an extremely serious advantage of this method is that the beginning of the improvement is achieved with the beginning of the application of the method, while its required application time for the achievement of substantial improvement is short, not more than a few hours. Another advantage of this

method is that it admits wide industrial application and, moreover, it does not require changes in the working specifications of the existing industrial or manufacturing facilities, either during the stage of the processing of the tobacco or during the stage of the production of the final product (cigarette packs, cigars and tobacco pouches). Another advantage of this method is that it is not applied only during the processing stage of the tobacco and the industrial manufacture of its final products, but it is all applied directly to the final product even after its packaging or while it is in storage areas, and it can also admit household use. Another advantage of the method is that for its application it is not necessary for the tobacco products to be stationary, and neither the device. Thus, the method can be applied on ships or transportation containers, so that their qualitative improvement will have been achieved by the time they reach their destination. Another advantage of this method is that its application is financially expedient, as it requires very low operational costs.

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The invention is described below, with the aid of non-restrictive examples and with reference to the attached drawing, which illustrates one application form of the method which constitutes the object of the present invention.

The drawing illustrates one application way of the invention, on final industrial tobacco products and final packaged ones.

One application way of the invention is described with reference to the drawing. The final industrial tobacco products (1) are placed packaged in the storage areas or packaged in boxes (2), at the customary storage temperature. Near them is placed an electromechanical or electronic device (3) of programmed operation, which emits electromagnetic waves (6) and from which extends a tube (4) which ends in their emitting antenna (5). The electromagnetic waves (6) are emitted towards the final industrial tobacco products (1) or towards the packaged

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ones in the boxes (2). The emitting antenna (5) may constitute an integral part of the emitting device (3) or be connected to it with a tube (4).

The electromechanical or electronic device (3) produces electromagnetic waves (6) which cover wide wavelength ranges, from 1mm to 11,000km, together with their harmonic frequencies, which are produced by the device and which are emitted either in all the wavelengths from 1mm to 11,000km or in one or more parts of particular areas, so as to achieve a resonance of all the elements of tobacco. The areas of the frequencies to which these electromagnetic waves belong are characterized by the international names EHL (extremely high frequencies), SHF (super high frequencies), UHF (ultra high frequencies), VHF (very high frequencies), HF (high frequencies), MF (medium frequencies), LF (low frequencies), VLF (very low frequencies). The emission of the electromagnetic waves (6) is programmed with the electromechanical or electronic circuit of the device (3) so as not to be continuous but pulsatory. The length between the emitted pulses may be of constant or variable time. The length between the pauses of the emitted pulses may be of constant or variable time.

The emission of the electromagnetic waves (6) may be modulated in any way, or it may not be modulated at all.

The emission potency of the electromagnetic waves (6) increases with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) and the industrial tobacco products (1), or even with each augmentative alteration of the volume of the industrial tobacco products (1), to which the method is applied, in order to achieve the same qualitative improvement at the same time, as well as the reverse. Also, with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) and the industrial tobacco products (1), or even with each augmentative alteration of the volume of the industrial tobacco

products (1), to which the method is applied, the application duration time of the method must be increased in order to achieve the same qualitative improvement with the same potency, as well as the reverse.

5 Furthermore, there exists the possibility of electromagnetic waves (6) being emitted from more than one device, simultaneously, in the same place. The total simultaneous emission potency provided must always be low, in order to achieve the desired result, but without causing any substantial increase in the temperature of the industrial tobacco products to which the present method is
10 applied, without the potency descending below 0.0001 mWatt, whether one device is used or more than one devices.

The user of the method is able to decrease the time required for the achievement of the selected level of qualitative improvement by increasing the total simultaneous emission potency provided by the electromagnetic waves (6),
15 which must be maintained in low levels, so as not to cause a substantial increase in the temperature of the industrial tobacco products, as well as the reverse, but without the emission potency descending below 0.0001 mWatt.

The initiation of the qualitative improvement of the industrial tobacco products occurs with the initiation of the application of the method, while the
20 required application time for the occurrence of a substantial improvement is short, not more than a few hours.

The duration period of the application of the method is dependent on the type of the industrial tobacco products to which the method is applied and is proportional to the desirable qualitative result. Thus, the longer the duration
25 period of the application of the method the greater the qualitative improvement of the industrial tobacco products to which the method is applied.

Also, the method may be applied even if between the source of the pulsatory emission of electromagnetic waves and the industrial tobacco products

there exist materials such as cardboard, wooden boxes, concrete and metals, with the exception of conductible materials which are grounded.

The present method can be widely used by industries, manufacturing and commercial enterprises of tobacco products, and applied either during the processing of the tobacco, or during the manufacture of the products, or even to the final tobacco products after their packaging in the storage areas or they are packaged in boxes.

The method results in a substantial qualitative improvement of the industrial tobacco products, as it counters the toxic substances of solid tobacco 10 contains their toxic action, thus achieving a significant qualitative improvement of the industrial tobacco products, so that the final product used by the consumer has fewer harmful effects on his health.

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